

Equity in Agriculture:

Preserving the Value of Delaware's Rural Lands

Delaware Office of State Planning Coordination
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Table of Contents

Introduction: Preserving the Value of Delaware’s Rural Lands.....	1
New Growth Trends Impact Our Rural Areas.....	3
Local and State Government Planning and Responsibility	5
Large “Town Scale” Subdivisions Don’t Fit in our Rural Areas	7
Rural Subdivisions Have a Statewide Impact.....	11
House Bill 280 – A Statewide Response to Address the Challenge	16
Myths and Misconceptions about the Delaware Sprawl Prevention Act	21
Conclusion	45

Table of Figures

Figure 1. Comparison of Milton, Delaware to The Village of Isaac’s Glen.....	8
Figure 2. Comparison of Clayton, Delaware to Westminster Chase and Silver Oak Farms.....	9
Figure 3. Comparison of Farmington, Delaware to Gray Dawn Acres and Meadowland Estates.....	10
Figure 4. Housing and Population Comparison: Selected Delaware Towns and Cities vs. Proposed Rural Subdivisions.....	11
Figure 5. Map of Minimum Lot Sizes in Agricultural Districts in Selected Maryland Counties.....	23
Figure 6. Available versus Needed Acreage Investment Levels 1, 2 and 3, 2002 – 2030.....	36

Acknowledgements

This paper details the results of a research project conducted by the Delaware Office of State Planning Coordination. Our research focused on preserving the value and equity inherent in Delaware's rural landscape, and culminated in the drafting of the proposed Delaware Sprawl Prevention Act (known as House Bill 280). This project has been a collaborative effort between our office, the Governor's Office and several state agencies, notably the Delaware Department of Agriculture (DDA) and the Delaware Department of Natural Resources and Environmental Control (DNREC).

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The Delaware Code has long recognized that there is a legitimate State interest and public purpose in managing the “development, utilization and control of land, water, underwater and air resources of the State to ensure that there are adequate supplies of these resources for domestic, industrial, power, agricultural and other beneficial uses.”¹ The Delaware Code obligates the State Government to manage and balance the use of these resources for the public good.

Introduction: Preserving the Value of Delaware’s Rural Lands

Delaware has historically been known for its vibrant agricultural industry, natural resources, open spaces, and quiet pace of life. While the northern portion of the state has long been urbanized, the lands south of the C & D Canal are predominantly rural in character. Agriculture is still Delaware’s largest industry, with an annual value of \$859.1 million.² Delaware’s rural lands also contain numerous environmentally sensitive natural resources, ranging from tidal marshes along the Delaware Bay to working forestlands that also serve as habitat for rare and endangered species.

Traditionally, human settlements in rural Delaware have been focused in and around small to mid sized towns and major transportation routes. While there have always been people who have chosen to live in the quiet country setting offered by Delaware’s rural areas, residential growth has been balanced with active agricultural and other rural land uses. Unfortunately, that is changing. In response to a new wave of population growth, and fueled by an unprecedented demand for new housing and a lucrative real estate market, Delaware’s rural areas are now seriously impacted by encroaching suburban development. The State and local governments have been working for many years to protect our rural areas, yet these new development

¹ State of Delaware. 7 *Delaware Code*, § 6001. Retrieved August 2005, from <http://www.delcode.state.de.us/title7/c060/sc01/index.htm#TopOfPage>

² *Delaware Agriculture Statistics*. (2004). The State of Delaware. Retrieved August 2005, from <http://www.nass.usda.gov/de/new2504.pdf>

pressures have overwhelmed current land use regulations and threaten to outstrip our ability to provide needed infrastructure and services. There is now a real possibility that our agricultural lands and natural resources will become so fragmented that our largest industry and quality of life will be lost forever.

The Delaware Sprawl Prevention Act (House Bill 280) was drafted to address these concerns, and to preserve the value inherent in Delaware's rural lands. The Act acknowledges that Department of Natural Resources and Environmental Control (DNREC) wastewater permitting regulations have an influence on the type, density, and location of new development activities in Delaware. The legislation would require that these regulations be amended to recognize the unique nature of our rural lands by prohibiting large scale "community" septic systems and small lots with individual septic systems in rural areas. This paper will detail the threats posed to the state by recent development trends. It describes how the Sprawl Prevention Act will work to enhance the value inherent in the state's rural areas by protecting our natural resources and our agricultural industry while directing development into areas where it has been planned for by municipal, county and the state governments.

Provisions of The Delaware Sprawl Prevention Act (House Bill 280)

- “Community On-Site Wastewater Systems” are not permitted in rural areas as defined by local comprehensive plans and the *Strategies for State Policies and Spending*.
- The lot size for “Individual On-Site Wastewater Systems” is increased from one half acre to four acres.
- Does not effect subdivisions with five or fewer lots.
- Agricultural preservation districts, agricultural industrial and agricultural commercial uses are exempt.
- A variance and appeals process is included in case of unique hardships caused by the Act.

New Growth Trends Impact our Rural Areas

What is happening in Delaware’s rural areas? Recently, the news media has been full of articles that describe the changes coming to our traditionally quiet working landscapes. One serious issue is that suburban residents don’t like living with modern agricultural practices. A Dover area farming family learned this first hand when they encountered opposition from neighbors as they recently sought to diversify their large farming operation by constructing poultry houses. Nearby residents were shocked at the prospect of living near a complex of poultry houses, with its attendant dust, odors, and occasional truck traffic. One resident interviewed by the *Dover Post* complained that the facility “could have a disastrous effect on the lives and property values of those living near the site.” “I’m not against them making a living,” she added, “but let’s find another place for it.”³ With suburban residential development encroaching throughout Delaware’s agricultural areas, there soon will be few places left to expand farms with modern, value-added practices such as poultry houses. Is it the farm that is

³ Brown, J. (2005, May 4). Plans for Cartanza chicken farm rile neighbors. *Dover Post*. Retrieved August 2005, from <http://www.doverpost.com/PostArchives/05-04-05/index.html>

in the wrong location, or are the suburban residents misplaced in the midst of our rural areas? The farmer summed up the issue in the *Dover Post* article. “We do want to work with our neighbors,” he said. However, he added, “Everyone wants to live in a rural area, but they don’t want to deal with what it takes to make it farmland.”⁴

These same frustrations were underscored by another downstate farmer in a June 2005 *News Journal* article about the Sprawl Prevention Act. The farmer is concerned that intense development pressure is “overburdening roads, polluting waterways, and compromising rural lifestyles.”⁵ He goes on to note that when land prices are inflated due to development pressure, new farmers can’t purchase land for farming and it is very hard for existing farms to expand their operations. “Residents moving into new developments in rural areas might not be ready for the lifestyle. They often complain to regulators about farm odors and the early and late hours farmers work during planting and harvesting seasons. Enough complaints over enough time, coupled with increases in land value because of its proximity to development, often conspire to drive farmers off of the land.”⁶

Unfortunately, these trends are now affecting even the Amish community in Kent County. The Amish are excellent farmers and crafts people who work without the benefits of modern machinery in accordance with their religious beliefs. They prefer to live in rural areas and practice their simple lifestyle away from the stresses of the modern world. Rural western Kent County used to be one such place, but suburban development is pressuring many Amish into leaving the state. *The Dover Post* and

⁴ Ibid.

⁵ Murray, M. & Jackson, P. (2005, June 5). Farmers, developers fight plan to limit growth. *News Journal*, p. A1, A9.

⁶ Ibid.

the *News Journal* both recently reported that many Amish families are selling their farms and moving to rural areas in states such as Missouri to escape suburbanization. Development, high land values and traffic seem mostly to blame for this sentiment. Development pressure has inflated the value of nearby land. Traffic is a serious concern to the Amish, who travel in traditional horse and buggies. One Amish resident interviewed for the story, who bought his farm four years ago, used to be able to take his horse and buggy to Spence's Bazaar in Dover to shop. Now traffic has increased so much that he has to hire someone to drive him. "I know people from New York City or New Jersey or somewhere could move in and say 'oh yes, it's country, it's really rural,' but to us it's not as rural as we'd like to see it," explained the Amish farmer.⁷

Fragmented farmland, traffic, development pressure, conflicts between farmers and neighbors, the Amish leaving Delaware . . . these are not the headlines we would have expected to see in Delaware even a few years ago. Regrettably, the development pressures we are now experiencing are not in accordance with our vision of how Delaware should grow and develop. In fact, the pressure is so great that the regulations currently in place must be reevaluated because they are not having the desired effect as expressed in local and state planning documents.

Local and State Government Planning and Responsibility

The local governments in Delaware (57 municipalities and 3 Counties) all prepare comprehensive land use plans as required by the Delaware Code. Municipal

⁷ Donegan, M. (2005, July 13). Developers offering Amish top dollar for land. *Dover Post*. Retrieved August 2005, from <http://www.doverpost.com/PostArchives/07-13-05/index.html>

comprehensive plans outline areas for growth and annexation. County plans contain designated growth zones where suburban growth is expected, and rural areas where agricultural and other rural land uses are promoted. Zoning, subdivision and other land use regulations are put into place to enact the plans that are developed. The New Castle County plan designates the area south of Middletown as a rural area. The County has enacted the Unified Development Code which designates much of this area as “Suburban Reserve.” Kent County’s plan identifies a growth zone in the center of the County where sewer service is planned. The County has adopted a subdivision ordinance with incentives to develop within the growth zone. Sussex County’s plan designates “Development Districts” centered on the local municipalities.⁸

These plans are reviewed and certified by the State, then used to produce the *Strategies for State Policies and Spending*, which is the State’s blueprint for investments in infrastructure and services. While local governments retain authority over land development approvals, the State is directly involved in providing much of the infrastructure and many of the public services that support new development. The State government owns and maintains nearly 90 percent of the 12,000 lane-miles of roads and streets in Delaware, including most of the subdivision streets in unincorporated areas of New Castle and Kent Counties. Most states maintain an average of 20 percent of the roads, while counties and local governments take care of

⁸ Kent County. (2002, March). *Kent County Comprehensive Plan Update*. Retrieved August 2005, from <http://www.co.kent.de.us/Departments/Planning/Zoning/CompPlan%20approved%203-23-02.pdf>
New Castle County. (2002). *New Castle County 2002 Comprehensive Development Plan Update*. Retrieved August 2005, from <http://www.co.new-castle.de.us/landuse/compdevelplan/compplan2002.pdf>
Sussex County. (2003, January). *Sussex County Comprehensive Plan Update*.

the rest. The State government funds 100 percent of school transportation and paratransit services, up to 80 percent of school construction costs, and the cost of police protection for many unincorporated areas of the state. The State also provides grants, loans and other direct and indirect assistance to local governments for hard infrastructure such as sewer and water systems, parks, and other community facilities. The *Strategies* provide framework that ensures that the State is spending its limited resources efficiently, effectively, and in locations where local governments intend to grow.

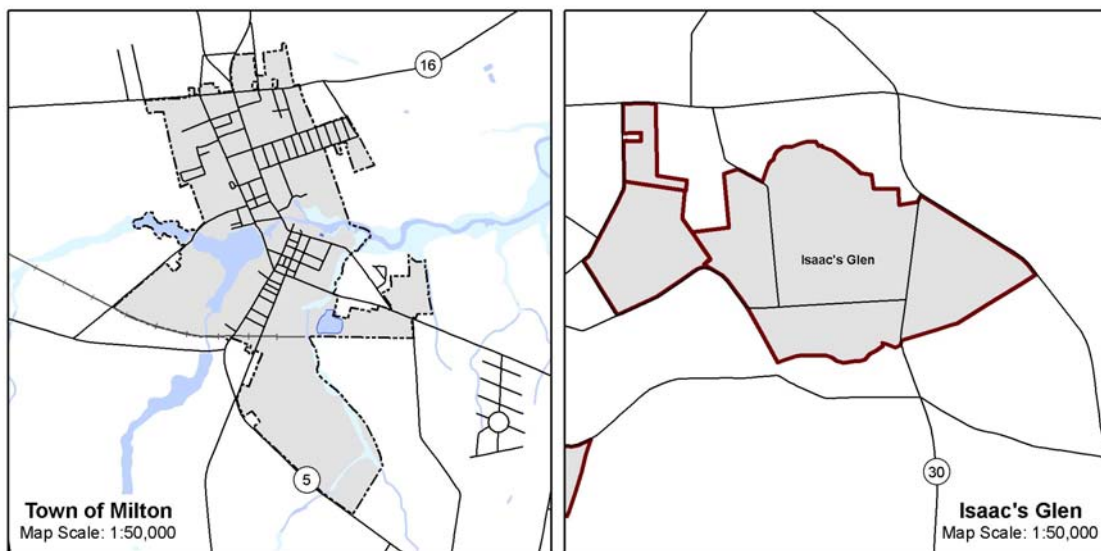
All three county plans and the *Strategies* define specific growth areas. The remaining rural areas of the state are classified as Investment Level 4 areas in the *Strategies*. Investment Level 4 indicates where State investments will support agricultural preservation, natural resource protection, and the continuation of the rural nature of these areas. New development activities and suburban development are not supported in Investment Level 4. These areas are comprised of prime agricultural lands and environmentally sensitive wetlands and wildlife habitats, which should be, and in many cases have been, preserved.

Large “Town Scale” Subdivisions Don’t Fit in our Rural Areas

Despite the fact that the state and local governments have planned areas for growth and areas that should remain more rural in nature, many large developments have been recently proposed in remote, rural areas. These subdivisions sometimes contain hundreds or even thousands of homes, and if built would be larger than the towns nearest them. One example is known as the Village of Isaac’s Glen, which has

been proposed in the midst of preserved agricultural lands between Milford and Milton. This subdivision includes 1,592 housing units on approximately 800 acres. The project would essentially be a small town with a mixture of residential, commercial and institutional land and a potential future population of over 4,000 residents. If approved and completed, Isaac's Glen would have a larger population than nearby Milton, which had a population of 1,657 according to the 2000 Census.

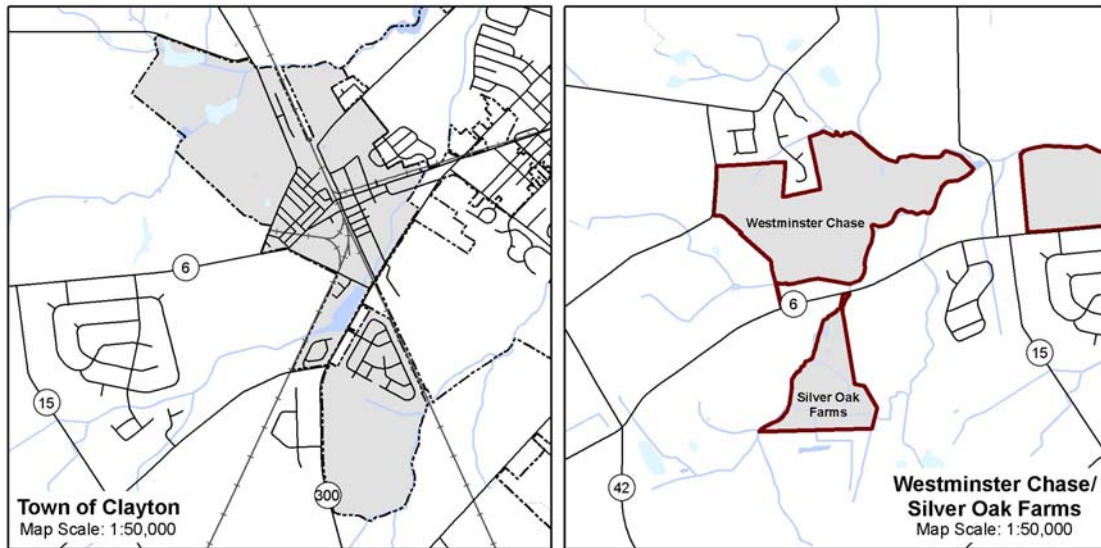
Figure 1. Comparison of Milton, Delaware to The Village of Isaac's Glen.



Source: Office of State Planning Coordination. Isaac's Glen as proposed (PLUS 2005-05-14)

Another example is located along Millington Road, several miles west of Clayton where a developer has proposed two large subdivisions across the road from one another. These developments, called Silver Oak Farms and Westminster Chase, would have a combined 547 lots and share a community wastewater system located on the northernmost parcel. Combined, these two subdivisions could have over 1,400 residents. Clayton, which had a population of 1,273 in 2000, is concerned that these developments will strain the local police resources and the volunteer fire company.

Figure 2. Comparison of Clayton, Delaware to Westminster Chase and Silver Oak Farms.



Source: Office of State Planning Coordination. Westminster Chase and Silver Oak Farms as proposed (PLUS 2004-12-06 and 2004-11-10)

Farmington is one of Delaware’s smallest towns, with a 2000 population of just 75 people living in 41 houses. It is a historic railroad town tucked in the largely undeveloped corner of southwestern Kent County. Large scale development did not seem likely in or near Farmington because of its remote location and lack of physical infrastructure, such as sewer and water. Yet, just outside of town, a developer has proposed two subdivisions called Grey Dawn Acres and Meadowland Estates. Combined, these two developments would have a total of 251 houses located in the midst of horse and poultry farms east of town. The approximately 650 new residents of this settlement will have to contend with narrow, crowded rural roads containing dangerous curves and odors from existing poultry houses adjacent to the property. To overcome the limitations on the infrastructure in the area, the developer has proposed a private sewer and water system.

Figure 3. Comparison of Farmington, Delaware to Gray Dawn Acres and Meadowland Estates.



Source: Office of State Planning Coordination. Gray Dawn Acres and Meadowlands Estates as proposed (PLUS 2005-04-01 and 2005-06-04)

These rural subdivisions all have a few common features. First, they will result in settlements containing hundreds or thousands of people. Second, these people will be living in remote areas far from schools, shopping, institutions, local police protection and emergency services that are common in the state's towns and growth areas. Third, the new residents will be required to rely upon private automobiles to fulfill virtually every daily need. This is despite the fact that the road networks serving these areas are designed and maintained to meet the needs of the rural area, not to sustain the traffic caused by the thousands of automobile trips made necessary by these new suburban developments. And finally, in each of these cases the scale and density of the development is enabled by State regulations that allow developers and private companies to construct private sewer and water infrastructure in remote, rural locations.

Rural Subdivisions Have a Statewide Impact

These three subdivisions alone would be a cause for concern, but in recent years development activity in rural areas has become an alarming trend. Since February of 2004, over 15,000 new housing units have been proposed in large subdivisions⁹ in Investment Level 4 areas.¹⁰ To put this into perspective, in the year 2000 the only Delaware town or city with more total housing units was Wilmington with 32,138 units. Dover contained approximately 13,000 housing units and Newark contained just over 9,000 housing units in the year 2000. If all of the proposals in just the past year and a half are approved and built, it will mean scattering a residential population larger than Dover's randomly throughout the rural areas of the state. Yet these residents will have to do without the infrastructure and services that people depend upon in developed communities.

**Figure 4. Housing and Population Comparison:
Selected Delaware Towns and Cities vs. Proposed Rural Subdivisions**

Location	Housing Units	Residents
Wilmington	32,138	72,664
Proposed in Rural Areas, February 2004-present	15,050	38,227* (estimated)
Dover	13,195	32,135
Newark	9,294	28,547
Milford	2,897	6,732
Seaford	2,809	6,699

Source: Information for towns and cities came from the 2000 US Census. Proposed units from the Office of State Planning Coordination PLUS records. *The population was estimated using the average household size for the State of Delaware as recorded in the 2000 US Census (2.54 persons per household).

Despite the best efforts of local governments to protect their rural and agricultural areas, current development pressures have overwhelmed local land use ordinances.

The need for State legislation to curb this trend has become clear. The Delaware

⁹ PLUS defines "large subdivisions" as subdivisions having 50 or more units.

¹⁰ Records kept by the Delaware Office of State Planning Coordination from February 2004 to the present show approximately 15,050 housing units have been proposed since February 2004, with 10,494 of the total housing units being proposed in 2005.

Code has long recognized that there is a legitimate State interest and public purpose in managing the “development, utilization and control of land, water, underwater and air resources of the State to ensure that there are adequate supplies of these resources for domestic, industrial, power, agricultural and other beneficial uses.”¹¹ The Delaware Code obligates State Government to manage and balance the use of these resources for the public good. The citizens and local governments of Delaware have helped define that public good from a land use perspective by preparing and adopting comprehensive land use plans that have been certified by the State. The challenge has been developing effective tools to achieve that vision.

For many years the State government has actively pursued a proactive approach to protecting our rural landscapes. The historic Coastal Zone Act, passed under Governor Peterson’s leadership in 1971, prohibited major industrial development along Delaware’s fragile bay coastline. In recent years the State has invested heavily in agricultural preservation and natural resource conservation. The Agricultural Land Preservation Foundation has invested over \$88 million of public money since its inception to purchase easements in agricultural areas.¹² This program has protected almost 80,000 acres¹³ of agricultural lands, making Delaware a leader in the nation. The State’s open space program has also made many important acquisitions of significant natural resource areas. These investments have been complimented by investments by the Federal government and private conservation organizations. The State has an obligation to protect and enhance our investments in Delaware’s working

¹¹ Op. Cit., Delaware Code.

¹² *Farmland Preservation in Delaware*. (2005). State of Delaware. Retrieved February 2005, from <http://www.state.de.us/deptagri/aglands/lndpres.shtml>. Updated September 13, 2005 by the Delaware Department of Agriculture.

¹³ Ibid.

landscape and natural heritage, but with the advancing trend of suburban development it is clear that our proactive approach is not enough.

Suburban developments in rural areas have many negative consequences that threaten these investments, and threaten the entire agricultural economy and natural resource base that define Delaware's character and quality of life. Suburban developments in rural areas fragment natural habitat. Wildlife relies on continuous and connected habitat corridors and a network of ecological features to survive. Construction activity for housing development and the new residents themselves often conflict with the needs of wildlife in rural areas. Suburban development impairs water quality in ground and surface waters. Septic systems (individual and community) can pollute groundwater if not properly maintained, and development in rural areas is often too remote to have access to public sewer services. Housing developments increase overall imperviousness in watersheds by adding roads and rooftops to previously rural areas. Studies have shown that water quality is degraded once a watershed exceeds 10 percent of total imperviousness, so each and every new development degrades the quality of waterways that are already saddled with pollution.¹⁴

The effects of suburban development on the agricultural industry are equally severe. Modern agricultural practices require large, contiguous parcels for efficiency and profitability. Scattered residential developments fragment farmland, and new residents often complain about the dust, noise and odors associated with agricultural practices. Farm equipment must use rural roadways to access fields. Suburban traffic introduced to rural areas is an impediment to farm operations and is a dangerous

¹⁴ Holland, H.K. & Schuler, T.R. (2000). *The Practice of Watershed Protection*, pp. 7-18, 145-161.

mixture of traffic patterns that can lead to accidents. We've already seen that agricultural practices and suburban residents often have conflicts, a fact that threatens the viability of the industry with the approval of each and every subdivision.

Along with its effects on habitat, water quality, and the agricultural industry, scattered residential developments negatively impact the state's air quality. Delaware is currently a non-attainment area for air quality according to the Federal EPA. This term refers to areas that exceed air pollution levels that are deemed safe by the Federal government, and thus pose serious health threats to those who breathe this polluted air. A recent report by DNREC detailed the health threats posed by pollutants in our air, and linked our air quality problems to Delaware's high cancer rate.¹⁵

Emissions from individual vehicles such as cars and trucks are the largest contributor to our air quality problems, and one of the most challenging to address. Local governments and State transportation planners struggle to plan effective roads, pedestrian ways, and transit systems to reduce the amount of vehicle miles traveled each year. Each rural subdivision makes these efforts more difficult because residents in remote areas must drive many miles to fulfill daily needs. Considering that the average household makes 10 vehicle trips per day, these large subdivisions of hundreds or thousands of homes can contribute a significant amount of traffic and air pollution.

Fiscal responsibility was another important factor that underscores the need for this legislation. Delaware is unique in that the State funds the majority of

¹⁵ Montgomery, J. (2005, August 16). Delaware's air a toxic mix of chemicals, state study says. *News Journal*, p. A1, A9.
Delaware Air Toxics Assessment Study. (2005). State of Delaware.

infrastructure and public services that support new development and future residents. Given our limited resources, it is a challenge to keep up with the needs in our municipalities and designated growth areas. In fact, this year the Department of Transportation has been forced to put on hold many needed transportation improvements in order to reevaluate funding mechanisms that have been outstripped by recent rapid growth. Suburban subdivisions scattered throughout our rural areas seriously threaten the ability of the State government to provide needed infrastructure and public services such as roads, transit, schools, and police protection where they are needed most. This is because the residents in the rural subdivisions will demand the same services, but will be located in scattered and remote locations that will be impossible to serve efficiently or effectively. The overall impact will be a degradation of the quality and an increase in the cost of those services statewide. All Delawareans will feel the long term effects of poor land use decisions made today.

Delaware's Paratransit service for the disabled and the elderly provides an example. Our service is the most generous in the nation, providing qualified riders with door to door service, by reservation, statewide. A recent *Delaware State News* article discussed the rising cost of this program. Many people moving to Delaware, especially to Sussex County, are retirees. Anyone over the age of 65 is eligible to use the service. DART, the transit agency that runs the service, has been receiving 200 applications a month from citizens wanting to use paratransit services, and there has been a 15 percent increase in the number of trips this year. While passengers only pay \$2 for a one way trip, the trip costs, on average, \$27.13. As the over-65

population continues to grow, and if development continues to sprawl into rural areas, this will continue to put a strain on the State's limited transportation dollars.

House Bill 280 – A Statewide Response to Address the Challenge:

It is the cumulative impact of these findings which have led to the drafting of the Delaware Sprawl Prevention Act (House Bill 280). To combat the challenge posed by this new and dangerous trend of large-scale suburban subdivisions located in rural areas, we had to look no farther than the *Strategies for State Policies and Spending*. Governor Minner's Executive Order 14 directs the State Agencies to fully implement the *Strategies* through their spending decisions, permits, and programs. One thing large subdivisions have in common is the need for wastewater disposal, which is regulated by the Department of Natural Resources and Environmental Control (DNREC). State planners and agency staff evaluated DNREC's permitting guidelines to determine how they were influencing current development patterns, and what changes were needed to bring these regulations into compliance with the *Strategies*.

Many of the newly proposed large subdivisions are taking advantage of "community wastewater systems," which collect sewage from individual lots and transmit it to a central facility for treatment. Systems of this type have been used for years on a small scale in developments such as mobile home parks. Recently, however, community wastewater systems have been applied to large subdivisions containing hundreds or even thousands of units. There are even examples, such as Westminster Chase and Silver Oak Farms west of Clayton, where two or more farms have been connected to a central or regional "community wastewater system." At

this scale, these facilities have more in common with municipal or regional wastewater treatment plants. According to DNREC, the size and scope of some of the recently proposed community wastewater systems rival some municipal wastewater treatment facilities in Sussex County, including those in Millsboro, Laurel, and Bridgeville.

DNREC thoroughly reviews and regulates the technical details of proposed community wastewater systems, but does not currently specify where such systems can be located. These systems have a number of drawbacks that have been highlighted in a July 2005 article in *Planning Magazine*. These systems require continuous maintenance, almost daily in some cases. Properly maintained these systems can function for many years, but when neglected they can fail resulting in water quality problems, public health risks, and costly repairs that can overburden those who are responsible for them. In Olympia, Washington the municipal government has taken over the maintenance of the systems, and over time has found them more costly and labor intensive to maintain than public sewer systems. In fact, over 90 percent of Olympia's sewer utility calls have been for maintenance related to these systems.¹⁶ In the recent past, some of the older community septic systems in Delaware have failed as well. In our state, community septic systems are typically owned and maintained by homeowner's associations. The long term maintenance and viability of these systems has been a serious concern, so now private utilities regulated by the Public Service Commission are required to take responsibility. However, local or State government may ultimately be requested to take over failing systems if these companies go out of business.

¹⁶ Harville, B. (2005, July). New Tech, New Trouble? *Planning*, pp. 39.

A more serious concern has arisen in Tennessee, where a reliance on community wastewater systems has fueled decentralized development of the type we are now seeing in Delaware. The trend towards the use of these systems has “fueled sprawl and left county governments playing catch up as they search for ways to improve roads and build schools in these long undisturbed locales.”¹⁷ Robert Franklin, a planner with Mt. Juliet, Tennessee, explains that this pattern of development “lures investment away from urbanized areas with cheaper land prices. That allows the developer contribution towards infrastructure to decrease and the public subsidy to increase. The development community sees cheaper and lower infrastructure cost as a more profitable investment. The lagging demand for road improvements and school construction is a cost then passed on to the taxpayers.”¹⁸ The issues facing those in Tennessee are eerily similar to the land use patterns which are emerging, rapidly, here in Delaware.

Based on the experiences of other states, such as Washington and Tennessee, the Delaware Sprawl Prevention Act has been drafted to prohibit community wastewater systems in rural areas of the state as defined by local comprehensive plans and the *Strategies*. Community wastewater systems promote sprawl by allowing town-scale development projects to be located away from planned infrastructure and services, in the midst of rural areas. Community wastewater systems burden future residents with high maintenance costs that may, eventually, become the responsibility of the taxpayers if the systems fail and private utilities become insolvent.

¹⁷ Ibid., 40.

¹⁸ Ibid., 41.

Community System (a.k.a. Community Wastewater System): Any on-site wastewater treatment and disposal system which will serve more than three (3) lots or parcels or more than three (3) condominium units or more than three (3) units of a planned unit development.

On-Site Wastewater Treatment and Disposal System: Any conventional or alternative wastewater treatment and disposal system installed or proposed to be installed on land of the owner or on other land to which the owner has the legal right to install the system.

Individual On-Site Wastewater System: An on-site wastewater treatment and disposal system located on a single lot, generally serving one single family home located on the same lot.

The Delaware Sprawl Prevention Act also affects the regulations for individual on-site wastewater systems (generally known as septic systems, or “on-site septs”). Current regulations allow one individual on-site wastewater system to be constructed on as little as a half acre of land. Although the development community has increasingly been using community wastewater systems for large scale residential development, current regulations would still allow large concentrations of half acre lots if community wastewater systems were restricted in rural areas. Large subdivisions utilizing small lots with individual on-site wastewater systems would represent inappropriate development in rural areas for the same reasons detailed for subdivisions using community wastewater systems. Large developments with individual on-site wastewater systems would create additional water quality concerns due to the density of the systems and the impact on groundwater, which is the sole source of drinking water in Kent and Sussex Counties. In addition, the use of individual on-site wastewater systems would further decentralize the maintenance responsibilities increasing the likelihood of failure of multiple systems. The Sprawl Prevention Act changes the minimum lot size requirement for an on-site system from

one half acre to four acres in rural areas. Based on a review of regulations in New Castle and Kent Counties, some Maryland counties, and other areas of the country, it appears that the four acre requirement would serve to discourage large-scale residential subdivisions while allowing other residential development options and agriculturally related uses that are compatible with rural areas.

There are other notable provisions of the Delaware Sprawl Prevention Act. First, the Act does not affect subdivisions of fewer than five lots. Minor subdivisions, as permitted by local regulations, would still be allowed. Second, lands in Agricultural Preservation Districts, agricultural-commercial and agricultural-industrial uses are exempt from the Act. Community wastewater system technology may be appropriate to support agricultural economic development activities, and the Act will not impact those cases. And finally, an appeals and variance process is built into the Act to consider unusual cases of hardship that we were unable to anticipate when drafting the legislation.

The Sprawl Prevention Act is a moderate response tailored to Delaware's needs. The legislation defines growth areas and rural areas. These definitions are tied not only to the *Strategies for State Policies and Spending* but also to certified comprehensive plans adopted by local elected bodies. All of these documents are reviewed and updated on a five year cycle, ensuring that the regulations will always respect our collective vision for the future. The State is committed to continued collaboration with local governments to ensure that we work together to form a future that is in the best interest of Delaware's residents.

Myths and Misconceptions about the Delaware Sprawl Prevention Act

The Delaware Sprawl Prevention Act has raised many questions regarding land use, property rights, economic impacts, equity, and takings. The following section details a range of important issues of interest to Delawareans, and how the Sprawl Prevention Act has been crafted to address them. We call these issues “Myths and Misconceptions” because our research has demonstrated that the Act will be a compliment to the equity inherent in rural lands.

Myth 1: The four acre minimum lot size proposed by the Delaware Sprawl Prevention Act is a radical, untested idea.

Fact 1: *The Delaware Sprawl Prevention Act is modeled after programs that have been successfully implemented in other areas of the country, including many nearby jurisdictions. The median, minimum lot size requirements for the 9 Maryland counties on the Delmarva Peninsula is 10 acres, and the Sprawl Prevention Act is actually less drastic than seven of the Maryland counties on Delmarva that have minimum lot size requirements between five and twenty acres.*¹⁹

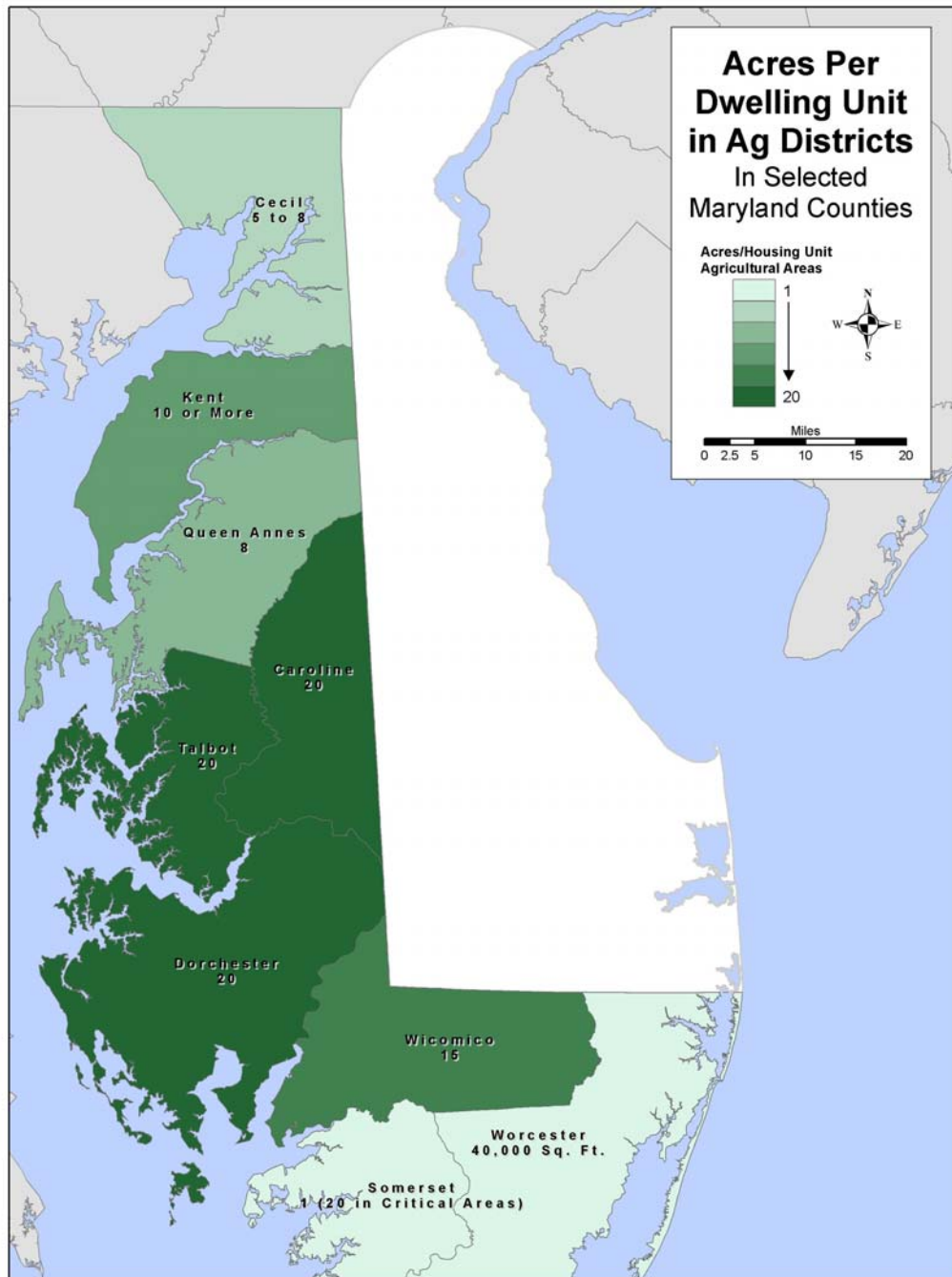
While the proposed four-acre lot size minimum may seem like a drastic change to some Delawareans, The Delaware Sprawl Prevention Act is not a new concept or a radical idea. Versions of this approach have been successfully implemented in many other parts of the country, from New Jersey, Pennsylvania and Maryland to California, Oregon and Hawaii. Zoning, land use, and environmental regulations that restrict large scale suburban development have been shown to preserve and enhance agricultural viability by preventing fragmentation of farmland and encroachment by incompatible

¹⁹ Rogers, S.J.T. et al. (2003, December). *Downzoning: Does it Protect Working Landscapes and Maintain Equity for the Landowner?* Retrieved March 2005, from Maryland Center for Agro-Ecology, Inc. website: <http://www.agroecol.umd.edu>
Somerset County. Phone conversation with staff members. June-July, 2004.
Wicomico County. (2005). *Zoning Code: County Regulations Wicomico County, Maryland*. Retrieved June 2005, from <http://www.wicomicocounty.org/>
Worcester County. (2005). *Code of Public Local Laws Worcester County, Maryland, v11*. Retrieved June 2005, from <http://www.co.worcester.md.us/>

land uses such as housing. Studies have indicated that protecting rural uses can actually increase the value of those areas by increasing the certainty that traditional rural land uses can continue. In fact, many Maryland Counties on the Eastern Shore adjacent to Delaware have enacted stricter regulations than we are proposing under the Sprawl Prevention Act. Depending on individual zoning districts, these counties typically have minimum lot size requirements in agricultural areas well in excess of the four acres proposed by the Sprawl Prevention Act. Wicomico County requires a minimum of 15 acres. Dorchester, Talbot, and Caroline require a minimum of 20 acres. Kent County, Maryland requires as much as 30 acre minimums in some situations.²⁰ Even New Castle County's land use regulations are more restrictive, requiring a minimum of five acres to construct a house in the rural area that is not currently planned for sewer service.

²⁰ Ibid.

Figure 5. Map of Minimum Lot Sizes in Agricultural Districts in Selected Maryland Counties.



Map by the Office of State Planning Coordination

Myth 2: The Delaware Sprawl Prevention Act is a “taking” of private property as described in the both the United States and the Delaware Constitutions.

Fact 2: *The Delaware Sprawl Prevention Act is not a taking of private property because it won’t bring about a physical taking, or confiscation of property, nor will it result in a regulatory taking, whereby land is left without any economically viable use. The Delaware Sprawl Prevention Act assures that equity inherent in rural areas is preserved and enhanced.*

A “taking” of private property occurs when a government entity seizes, without just compensation, the private property of a citizen. There are two general types of takings that have been defined through case law by the United States Supreme Court. The first type is a physical taking, where a government agency either takes possession of an owner’s land, or gives another party permission to intrude on the property. The Delaware Sprawl Prevention Act will do neither, and thus cannot be considered a physical taking.²¹

The second type of taking occurs “where the regulation denies all economically beneficial or productive use of the land.”²² This category is often referred to as a regulatory taking.²³ Mark Cordes, professor of law at Northern Illinois University College of Law, explained that “the primary focus is not on what is lost in terms of potential profit, but what remains in terms of possible use. As long as there is a reasonable ability to generate a livelihood, there is economic viability.”²⁴ The Delaware Sprawl Prevention Act will not eliminate all productive use of the land affected by the Act (see Myth 4) and thus will not bring about a regulatory taking of land.

Penn Central Transportation Company v. City of New York (1978) is a landmark Supreme Court case that demonstrates this concept. In the *Penn Central* case, the owners

²¹ Cordes, M.W. (1999). Takings, Fairness, and Farmland Preservation. *Ohio State Law Journal*, 60, 1033. Retrieved June 2005, from the University of Delaware electronic journals.

²² Ibid.

²³ Schwartz, A.W. (2004). Reciprocity of advantage: the antidote to the antidemocratic trend in regulatory takings. *UCLA Journal of Environmental Law & Policy*, 22, 76. Retrieved June 2005, from the University of Delaware electronic journals.

²⁴ Op.Cit., Cordes.

of Grand Central Station in New York City sued when the City denied them permission to construct a 50 story tower at the site of the historic station. The City denied the permit due to the historic nature of Grand Central Station, and this decision was based on a comprehensive landmark preservation law. The owners argued that the City had “taken” the property without just compensation. At issue was the perceived “right” of the property owner to exploit the air space above the station for speculative profit. The court decided on behalf of the City, noting that the owners still had a reasonable economic return from their investment (a bustling transportation hub), and that being denied the ability to make speculative profits from a hypothetical office tower did not constitute a taking.²⁵

Palazzolo v. Rhode Island (2001) is a more recent Supreme Court case that demonstrates the same concept. Mr. Palazzolo owned a waterfront parcel in Rhode Island consisting mostly of tidal wetlands, but including a small portion of uplands. He sued the State when he was denied permits to bulkhead and fill the wetlands in order to construct a 74 unit housing development. Palazzolo’s appraiser estimated that the value of the 74 unit subdivision was \$3.15 million. He argued that the State had “taken” his right to build the housing development, and demanded compensation based upon the appraiser’s estimate of the subdivision’s value. The Supreme Court found that there was no taking and Mr. Palazzolo was not due to receive “just compensation” for his speculative subdivision. Although the majority of the parcel consisted of undevelopable wetlands, the court found that the small upland portion retained “significant development

²⁵ Penn Central Transp. Co. v. City of New York, 438 U.S. 104 (1978).

value,” demonstrating that Palazzolo had a viable economic use for the parcel. The parties all agreed that the value of the upland portion was about \$200,000 if developed.²⁶

While the Delaware Sprawl Prevention Act places limits on certain wastewater permits for residential development, the Act is not a physical taking or a regulatory taking and does not conflict with private property rights. There are a wide range of economically viable agricultural, ag-industrial, ag-commercial, residential, recreational, and open space land uses which are currently available to rural land owners, and the Sprawl Prevention Act will not alter those rights.

Myth 3: The Delaware Sprawl Prevention Act will devalue all rural lands.

Fact 3: *Recent studies have shown that protected agricultural and rural lands are not uniformly affected in a negative way as a result of their protected state. Furthermore, there is evidence showing that in many instances their values are actually increased because of their protected state.*

Perhaps one of the biggest myths about the Delaware Sprawl Prevention Act is that it will reduce the value of all rural lands. While this has been a common concern of many people, recent studies have shown that there is no proof of this misconception.

In one study regarding the effect of farmland preservation on agricultural values, the authors were surprised by the results, stating, “Contrary to our expectations, we find little statistical evidence that voluntary, permanent preservation programs significantly decrease the price of farmland in Maryland.”²⁷ Another study by the Maryland Center for Agro-Ecology, Inc. concluded that there was no evidence that lowering potential development density had a uniformly negative impact on all farms affected by the

²⁶ Palazzolo v. Rhode Island, 533 U. S. 606 (2001).

²⁷ Lynch, L. & Nickerson, C. (2001). The Effect of Farmland Preservation Programs on Farmland Prices. *American Journal of Agricultural Economics*, 83, 341+. Retrieved February 2005, from the University of Delaware electronic journals.

action.²⁸ An intriguing part of the Maryland Center for Agro-Ecology, Inc. study is that they found evidence that farmland preservation programs have actually increased agricultural land values in some areas. The report cites Ann Arundel County as an example, where the value of development rights increased by approximately 66 percent, partly due to the demand for “farmettes.”²⁹

A study by Richard Barrow and David Henneberry also concluded that reducing potential development density does increase farmland values in many instances. Their study shows that the end result of a zoning ordinance on land values depends on the specific characteristics of each land parcel. Of the land studied for their report, they found that 90 percent of farms larger than 35 acres and at least 10 miles from a large city showed increases in value due to agricultural zoning.³⁰

The Sprawl Prevention Act would provide long-term protection to farmland from encroaching development, thus reducing a farmer’s uncertainty about the future. A farm that is not only protected, but surrounded by other protected farms is desirable because it gives farmers the assurance that they will be able to farm indefinitely. The Act has potential to increase rural land values because landowners will be able to farm without the threat of encroaching development that could eventually force them to relocate.

Myth 4: If the Delaware Sprawl Prevention Act becomes law, farmers will lose all of their options for how to use their land.

Fact 4: *Rural land owners have far more land use options available to them than residential land owners do. The Delaware Sprawl Prevention Act will not change that. In addition to crop farming possibilities, rural land owners can become involved in the equine industry, the poultry industry, agricultural commercial, industrial and*

²⁸ Op. cit., Rogers.

²⁹ Ibid.

³⁰ Barrows, R.L. & Henneberry, D.M. (1990). Capitalization of Exclusive Agricultural Zoning into Farmland Prices. *Land Economics*, 66, 249-257. Retrieved February 2005, from the University of Delaware electronic journals.

tourism uses, along with various residential development options. Furthermore, rural land owners can take advantage of federal, state, local and private equity transfer options.

Rural land owners have many profitable uses available to them that will not be negatively affected by the Delaware Sprawl Prevention Act. Furthermore, the Act will actually help preserve profitable land use options for farmers by protecting them from being forced out by development.

One of the most valuable options available to rural land owners is farming. The total value of agricultural output for Delaware in 2003 was \$859.1 million and the net farm income for the state was \$155.7 million. The average gross income per farm over this same period was \$373,521 and the average net income per farm was \$67,695.³¹

Protecting rural land through the Delaware Sprawl Prevention Act will help Delaware's agriculture industry remain strong, supporting our overall economy and preserving farmland for the younger generation who seek to farm the land in the future.

There are many profitable agricultural options available to farmers aside from traditional crop farming. *The News Journal* recently published an article explaining how new technology is making chicken houses more profitable than in the past, enabling poultry farmers to earn a net income of \$14,000 per chicken house.³² With such a relatively high profit margin, more rural land owners are turning to poultry farming to diversify their farming operations, making Delaware the 8th highest poultry producing state in the country.³³ Last year alone, Delaware poultry farmers produced 270.7 million chickens that had a value of \$686 million.³⁴

³¹ Op. cit., *Delaware Agriculture Statistics*.

³² Tadesse, L. (2005, June 19). Delmarva's poultry farms go high-tech. *News Journal*, p. E7.

³³ Ibid.

³⁴ Editor. (2005, June 21). Corrections. *News Journal*. p. A2.

Another rural land use that is becoming increasingly popular in Delaware is the Equine Industry. A report by the Delaware Department of Agriculture estimated there were about 27,415 acres of land in the State of Delaware devoted to equine-related activities. This report estimated that the average acre of land, including infrastructure, devoted to equine uses in Delaware was worth approximately \$20,427.³⁵

Agricultural industrial uses are an additional land use option available to rural land owners. The Perdue AgriRecycle plant near Laurel is one example. This facility converts poultry manure into commercially viable fertilizer pellets that are sold across the county. This plant takes a potentially harmful waste product from one of our largest industries, and transforms it into a profitable consumer product. The Pictsweet vegetable processing facility in Bridgeville is an example of an agricultural industrial facility that supports the agricultural industry by providing a venue to transform crops grown by Delaware farmers into commercially marketable consumer products. The Delaware Sprawl Prevention Act will guard the industries currently in Delaware from intruding growth that could eventually crowd them out of business, while creating protected land that will help attract future ag-industrial and ag-commercial businesses.

Agritourism businesses, which combine tourism and agriculture, provide a valuable option to rural land owners. The Delaware Department of Agriculture lists numerous different types of agritourism businesses that are currently found throughout the state. These businesses include petting zoos, “pick your own crop” farms, hay rides, farm tours, and more.³⁶

³⁵ *Delaware Equine Industry*. (2004). The State of Delaware.

³⁶ State of Delaware. (2005). *Agritourism*. Retrieved June 2005, from <http://www.state.de.us/deptagri/agritour/index.shtml>

Under the Delaware Sprawl Prevention Act, land owners will still have residential development options for lots that are four acres or larger in size. In Anne Arundel County Maryland, land values were preserved and in many instances increased by large lot requirements, partly due to the demand for farmettes near urban areas.³⁷ It isn't unreasonable to speculate that in the future a similar demand will arise in Delaware.

In addition to the other land use options, rural land owners can participate in numerous equity transfer options available through federal, state, and private agencies. Delaware has invested over almost \$90 million in preserving farmland since the Delaware Agricultural Lands Preservation Program was adopted in 1991.³⁸ Kent and New Castle Counties offer Transfer of Development Rights programs which allow rural landowners to sell their development rights to homebuilders who want to build more densely in designated growth zones or towns. Private organizations, such as The Nature Conservancy and Delaware Wildlands, provide a variety of services and resources to rural land owners to aid them in preserving sensitive natural areas and wildlife habitat.

Rural land owners have far more land use options than residential land owners, and these options will not be taken by the Delaware Sprawl Prevention Act, but will be preserved and enhanced for the future.

Myth 5: Farmers' ability to get loans to operate their farms will be effected if the Delaware Sprawl Prevention Act becomes law.

Fact 5: *Lenders' primary concern when issuing loans is the probability that the loan will be repaid on time. Lenders give the most weight to the potential debtor's reputation to repay a loan, and ability to repay a loan through annual farm income. The Delaware Sprawl Prevention Act will not affect either and thus is unlikely to affect most farmers' ability to get loans.*

³⁷ Op. cit., Rogers.

³⁸ Op. cit., *Farmland Preservation in Delaware*.

Farmers need to be able to get loans to finance farming operations and some people are concerned that the Sprawl Prevention Act will reduce a farmer's ability to obtain loans. While this is a legitimate concern, economic experts³⁹ and university research⁴⁰ have shown that there is no proof that reducing development potential has a negative effect on a farmer's ability to get loans.

A study conducted by the University of Pennsylvania explains that banks lend money based primarily on the individual's character and reputation to repay debts on time. The second most important factor is a farmer's ability to repay the borrowed money from farm cash flow. The last consideration for a bank is collateral. Banks may consider physical assets and established values for real estate (i.e. the value of a farm as a farm). The speculative value of the real estate (i.e. the value of the farm as some other use, such as housing) may also be considered but it is important to note that actual collateral will carry more weight than speculative collateral. Recent interviews with bankers from Georgia, Maryland, and Pennsylvania confirm that a borrower's reputation and cash flow are more important than collateral when lenders issue a loan.⁴¹

When a borrower cannot meet their financial obligations, the bank will foreclose and assume possession of the collateral. However, as the study explains, "Lenders want to be paid back, not be in the real estate business."⁴² Since banks want their money back, and

³⁹ Goldshore, L. & Wolf, M. (2002, October). Stopping the sprawl: desire for farmland preservation leads to 10-acre zoning, claims of confiscation of affected farmers and landowners. *New Jersey Law Journal*, 170, pp. S-1. Retrieved March 2005, from the University of Delaware electronic journals.

⁴⁰ Coughlin, R.E. (1984, May). *The Effects of Agricultural Zoning on the Ability of Farmers to Borrow Money*. (Research Report No. 8) Philadelphia, PA: University of Pennsylvania Department of City and Regional Planning.

⁴¹ Maryland Banker, phone interview, July 19, 2005.
Pennsylvania Banker, phone interview, July 19, 2005.
Southern Georgia Banker, phone interview, July 19, 2005.

⁴² Op. cit, Coughlin.

not collateral, the study concludes that while collateral is always considered, “it is generally a secondary consideration in the context of the other two factors.”⁴³

The Delaware Sprawl Prevention Act will have no effect on a borrower’s character and reputation for repaying loans. It won’t negatively affect the viability and potential for a farmer to profit from farming his land. As we have described in Myth 4, the Act may actually make agricultural land more viable and more productive. Since the Act will not affect the two primary criteria lenders use to evaluate loans, the Delaware Sprawl Prevention Act will not restrict the majority of farmers’ ability to get loans.

Myth 6: Farmers will not have any retirement options if the Delaware Sprawl Prevention Act passes.

Fact 6: *Many farmers have relied upon their land as their retirement savings, and eagerly anticipate selling to developers for what appears to be the highest price. However, there are many innovative retirement options available to farmers that take advantage of well known equity transfer programs, estate planning practices, and the increased value and equity inherent in valuable, protected rural lands.*

Farming is a very difficult occupation, especially for family farmers. Because most farmers are independent small business people they do not have the advantage of financial benefits such as employer-sponsored health insurance, retirement plans, pensions, and 401k plans. Many farmers are so busy with their work that they never have time to think much farther ahead than the next planting season, harvest, or loan payment. Their land, which provides them with their livelihood, is also considered to be their retirement savings account. And this land only grows more valuable with each passing year, assuring farmers a comfortable nest egg when and if they decide to sell at retirement.

⁴³ Ibid.

That nest egg has potentially gotten much larger in recent years as the trend has shifted from selling farms as farms to selling farmland for its development potential. There seems to be no shortage of realtors and developers willing to pay very high per-acre prices for farmland based on the expectation that they will be able to make an even higher return by building residential subdivisions on the land. Some farmers eagerly anticipate the day when they too can sell to developers. Many in the farming community have gone so far as to contend that the Delaware Sprawl Prevention Act will ruin all possible retirement options for farmers by making their land “worthless” to developers.

There is tremendous equity inherent in rural lands, especially in high quality farmland with modern improvements. In fact, a recent report from the United States Department of Agriculture (USDA) identified Delaware farmland as the fifth most valuable, per acre, in the nation. Only Rhode Island, Massachusetts, Connecticut and New Jersey had average farmland values that exceed Delaware’s. Since 2004, the USDA report shows that Delaware’s agricultural lands increased in value 40 percent to an average of \$8,400 per acre. This percentage increase was among the highest recorded in the nation.⁴⁴ Far from being “worthless” without development value, the USDA report underscores the point that farmland in Delaware is a valuable commodity that is likely to increase in value as time goes on. The Delaware Sprawl Prevention Act will only serve to enhance that value by protecting rural lands from encroaching suburban development (see Myth 3).

The value inherent in farmlands and other rural lands is sure to provide a valuable nest egg for farmers who plan on selling their land at retirement, regardless of whether it is sold as farmland or for residential development. Some would argue that since

⁴⁴ *Land Values and Cash Rents 2005 Summary*. (2005, August). United States Department of Agriculture. Retrieved August 2005, from <http://usda.mannlib.cornell.edu/reports/nassr/other/plr-bb/land0805.pdf>

developers will pay a much higher price than other farmers, it will be better to sell to the developers. Although conventional wisdom suggests that more money is always better, there are many other estate planning considerations that should be evaluated when any individual is planning for retirement.

Lottery winners face a dilemma similar to the farmer: is it better to accept the full cash payout in one lump sum, or is it better to take the annuity? Although many lottery winners find it difficult to turn down a cash payout, smart money managers almost always recommend the annuity as the more sound financial choice. In choosing the annuity, the lottery winner avoids paying half of their winnings in taxes almost immediately, secures a reliable stream of income that will last for many years, and almost always retains a much higher percentage of the winnings over the life of the annuity.

Farmers may choose to sell at a higher price to developers at retirement. They are then responsible for taxes on the sale. Since they have sold their land and likely their primary residence, they must use a portion of the remainder to acquire another residence or retirement property. Then they must plan very wisely for their remaining years. Without their land, they have no potential source of income to pay for annual expenses and health care costs as they age. Spending too much of their windfall on a new residence, travel, or other items may leave them cash-strapped as health care costs increase in their later years.

Innovative retirement options exist to help farmers make the most of the value inherent in their land as farmland, allowing them to retire in comfort and security. Rather than selling to a developer, the farmer could sell his development rights to the State via the Agricultural Lands Preservation Foundation, or to developers through a county level

Transfer of Development Rights (TDR) program. They could also choose to sell development rights or portions of their property with sensitive natural resources to the State's open space program, or sell or transfer sensitive lands to private conservation organizations for tax benefits and preservation. This initial sale and / or land transfer would provide cash to serve as a nest egg and tax benefits allowing the farmer to begin retirement. Yet under this option, the farmer still owns his land and likely his primary residence. There would be no need to purchase another residence unless it was desired. After retiring from farming, the farmer could lease the land to another farmer, assuring him a consistent income throughout retirement. This income can help offset living expenses and healthcare costs. It is expected that the value of the farmland will keep increasing in value over time. If the recent USDA report is any indication, that increase could be substantial. This could lead to a higher inheritance to pass on to heirs, or it could be sold – as farmland – at any time. Depending on the initial program selected, the farmer may still retain a variety of rural residential options ranging from minor subdivisions to selling off larger acreage as small farms, farmettes and large lot estates.

There are many things to consider when planning for retirement. Each and every family will have many decisions to make depending on the age at retirement, financial situation, debt, number of children, personal goals and many other factors. Some may certainly consider a large lump sum to be in their best interest, but the Delaware Sprawl Prevention Act can not be said to eliminate all retirement options for farmers. There are a number of ways farmers can comfortably retire while taking advantage of the equity in their rural lands.

Myth 7: The Delaware Sprawl Prevention Act will negatively affect the real estate market because there will not be enough available land left for residential growth.

Fact 7: *According to an analysis conducted by the State of Delaware, all three Delaware counties have sufficient land within the state-designated growth areas to accommodate population increases at least up to and beyond the year 2030.*

The State of Delaware recently conducted an analysis, in conjunction with the *Strategies for State Policies and Spending*, to evaluate the growth zones' capacity to accommodate population increases within the State of Delaware. This analysis evaluated the amount of remaining vacant land within the growth zones that is available for residential development, combined with the Delaware Population Consortium population projections for the State of Delaware through the year 2030.

**Figure 6. Available versus Needed Acreage
Investment Levels 1, 2 and 3, 2002 – 2030**

	Buildable Acres, 2002			Projected Housing Growth	Ratio of Available to Needed Land		
	Total	% Residential	Available for HUs		At 3 HU Per Acre	At 5 HU Per Acre	At 7 HU per Acre
Kent	42,624	76.70	32,693	14,305	6.86	11.43	16.00
New Castle	55,624	71.06	39,526	46,937	2.53	4.21	5.89
Sussex	71,427	78.88	56,342	45,191	3.74	6.23	8.73
State of Delaware	169,675	74.31	126,085	106,433	3.55	5.92	8.29

Source: *Delaware Strategies for State Policies and Spending* (2004)

More recent analysis by the Office of State Planning Coordination, in conjunction with county planning and mapping officials looks at existing and proposed residential building lots in Kent and Sussex Counties. In Kent County it was determined that there are approximately 9,000 vacant recorded building lots in the County as of July 2005. This figure includes some smaller municipalities, but excludes large municipalities such as Dover, Milford and Smyrna that issue their own permits. Of those lots, 66 percent of them were in municipalities and County growth zones. In addition, Kent County currently has 9,584 lots in some stage of the approval process. Due to recent land use planning initiatives, such as the new Kent County subdivision ordinance, 87 percent of

these lots are in the County Growth Zone. Combined, this represents over 18,000 potential available building lots in Kent County, most located in the growth zone. Considering that there have been approximately 1,200 new homes built each year in the County over the last several years, there is an ample supply of land available to accommodate future growth in Kent County. A similar review of Sussex County parcel assessment data revealed that there are approximately 24,000 vacant recorded lots in that County. Detailed data about the lots in the Sussex approval process was not available at the time we conducted our analysis.⁴⁵

Both the analysis conducted for the *Strategies* and the more detailed review of Kent and Sussex County data demonstrate that in all possible scenarios there is more than adequate land available in growth zones to accommodate the projected population growth for all three counties in Delaware through 2030. It is also worth noting that the growth areas are revaluated by state and local governments on a five year cycle, and can change in response to population growth, development pressures and other considerations. The Delaware Sprawl Prevention Act will not limit or restrict the real estate market because there is an ample supply of land to accommodate expected development inside the growth zones identified by the local governments and the *State Strategies* for many years to come.

Myth 8: There will be severe impacts and job losses in the construction trades if the Delaware Sprawl Prevention Act passes.

Fact 8: *The success of the construction trades in Delaware depends on homebuilding activity in the state. As there is more than adequate land available to accommodate residential and other growth in Delaware for many years to come. The Delaware*

⁴⁵ Analysis of available lots for Kent County completed by the Kent County Department of Planning Services in conjunction with the Office of State Planning Coordination, August 2005. Analysis of available lots in Sussex County completed by the Office of State Planning Coordination in consultation with the Sussex County mapping department, July 2005.

Sprawl Prevention Act will not have a negative impact on construction trades, as their services will still be needed to meet the demand for new housing.

Construction trades exist to serve the housing market, which is very strong in Delaware. The Delaware Sprawl Prevention Act will not affect the quantity of housing units constructed in Delaware; it will only ensure that more houses are built where the state, county and municipal governments have planned for growth. We have already demonstrated that there is more than enough land available in those growth zones to accommodate all of the housing expected for the next 30 years (see Myth 7 above).

Population growth and the demand for new housing are complex factors that are influenced by local, regional and national trends including the birth rate, economic development and job creation, and migration of people choosing to move from one state to another for a variety of reasons. The Sprawl Prevention Act will enhance and preserve the quality of life in Delaware, which is often cited as a reason why new residents choose to buy a home and relocate to our state. Furthermore, the Act will create more predictability for the construction trades and the development industry as residential development takes place in a manner that can be anticipated. This will be good for the industry, good for the economy, and ultimately good for future residents in the homes built during the coming decades.

Myth 9: The provision of affordable housing will be seriously impacted by the Delaware Sprawl Prevention Act.

Fact 9: *Affordable housing is an issue throughout Delaware. Affordable housing isn't currently being built outside the growth zones and shouldn't be built there. Living far from employment, transportation, commercial and community services is a serious disadvantage to low and moderate income residents. Affordable housing is a challenge that is being met by local, state, and federal agencies, as well as the private sector.*

Some in the development community have argued that the Sprawl Prevention Act will negatively impact the provision of affordable housing in Delaware. The lack of affordable housing is an issue statewide. The scattering of residential development into rural areas, away from population centers and services, has not created affordable housing opportunities inside or outside of growth areas. In order to address the state's need for affordable housing, public, private, and non-profit sectors need to work together on innovative solutions. Affordable housing that is scattered into rural areas, remote from jobs and services, can create hardships for residents whose transportation options are limited to car travel. The best location for affordable housing is within the growth zones, where residents will have access to employment, transportation, commercial and community services.

There is more than adequate land available inside the designated growth zones to meet the anticipated housing demands required by population growth. Some of this housing must meet the needs of those with low to moderate incomes. While it is unlikely that the private sector alone will provide this housing, the challenge will be met by the federal, state, and local governments along with private industry. The Sprawl Prevention Act will not negatively affect affordable housing inside the growth zone because there is sufficient land to meet development needs long into the future (see Myth 7).

Myth 10: The Delaware Sprawl Prevention Act will limit people's choices regarding where to live, and what lifestyle to lead.

Fact 10: *The Sprawl Prevention Act does not prohibit residential uses in rural areas of the state. The act seeks to limit large scale suburban subdivisions, but will not effect traditional rural residential housing options. Those who choose to live in a rural setting will still have the option to do so. In fact, the Sprawl Prevention Act will ensure to those making that choice that the rural landscape will be preserved.*

There have always been, and always will be, Delawareans who choose to live in the rural areas of the state. Farm families have resided on farms for generations, and many others have been drawn to live in the midst of the working landscapes and natural features of our rural areas. Those who make this choice may do so because of a connection to the land through their work as farmers or in industries related to Delaware's large and vibrant agricultural economy. Others value the proximity to open space, woodlands, and wetlands because they enjoy outdoor activities and being close to nature. Still others make this choice because of their desire to live "in the country," away from the hustle and bustle of cities, towns, and more developed suburban areas.

These are all valid reasons to live in rural areas, and the Sprawl Prevention Act will not prevent current or future Delawareans from making this lifestyle and housing choice. There are literally thousands of recorded lots in existence in our rural areas that could be built upon. Some of these lots are in suburban style subdivisions, and others are simply carved out of farmland along rural roadways. The Sprawl Prevention Act does not affect these subdivisions or lots, although relevant County ordinances may eventually "sunset" some of these lots if not built upon in a certain amount of time. The Act does not become effective until a subdivision of more than five lots is proposed, so any particular parcel may still be subdivided into up to five lots, depending on the local land use regulations. Lands in the Agricultural Preservation Program are exempt from the Act, and there are a number of residential options within the easement agreements which farmers may utilize. Finally, individual on-site wastewater system permits are still available to any lot larger than four acres that can comply with the relevant DNREC regulations.

With the Delaware Sprawl Prevention Act, those who choose to live in rural areas will continue to have many options including purchasing land in an existing subdivision, buying a rural lot or purchasing larger acreage. The Sprawl Prevention Act will serve to preserve our rural landscapes from encroaching suburban development. Not only will this protect the agricultural economy and our natural resources, but it will protect the lifestyles, investments and property values of those who choose to move to the country. Those living in rural areas should not have to worry about the threat of suburban subdivisions being built next door or near-by.

Myth 11: The minimum four acre lots proposed by the Delaware Sprawl Prevention Act will encourage “large lot sprawl” throughout the rural areas.

Fact 11: *Delaware is threatened by a new wave of population growth and housing demand. The current pattern of land development involves national builders constructing large subdivisions with hundreds or even thousands of homes on relatively small lots ranging from 7,500 square feet to 1 acre. Despite the fact that developers are currently permitted to build large lot developments under local ordinances, few if any choose to do so. Experience with similar regulations in New Castle County and many Counties on the Eastern Shore indicates that the Sprawl Prevention Act should not result in any significant increase in large lot subdivisions.*

Delaware is facing a new wave of population growth and housing demand. Since the 2000 Census, our best information from local jurisdictions is that population growth through migration into Delaware has met or exceeded our projections. Anecdotally, we have learned through a variety of sources that many of those moving to Delaware are coming here from surrounding states such as Pennsylvania, New Jersey, New York, and Maryland, drawn here by our high quality of life and low taxes. Some continue to commute to work in the major metropolitan areas, while others move to Delaware to retire. There are a significant number of second home purchases, mostly in Sussex

County. Families may continue to work for a while, and then retire to their Delaware home.

Home builders, including many national and regional builders, have noticed this trend and have increased their development activities in Delaware, particularly in Kent and Sussex Counties. The typical model of development utilized by these developers is to construct large subdivisions containing hundreds or even thousands of homes. There are many business advantages to this model. The developer can mobilize once and stay on site for many years constructing homes. The developer is assured an inventory of lots to be constructed upon as the market demands. Marketing and sales can be centralized and coordinated. Perhaps most importantly, there are cost savings to be achieved by installing infrastructure such as roads and sewer lines in a coordinated fashion in a relatively dense development pattern.⁴⁶ The typical lot sizes for this type of development range from 7,500 square feet to about 1 acre for a single family home. Densities may be higher and lot sizes smaller when development occurs in municipalities or in certain areas of designated county growth zones.

This model of development is appropriate and very efficient when located in conjunction with a local government's certified plan and the *Strategies for State Policies and Spending*. Growth areas designated by these plans are where the infrastructure and services are available and planned to meet the demands of population growth for years to come. Unfortunately, the development community has begun to use this same model of development in our rural areas, which is the primary reason that the Sprawl Prevention Act is so important. Why have they done so? Current regulations in Kent and Sussex

⁴⁶ Mix, T.D. (2003, August 29). *Exploring the Benefits of Compact Development*. Retrieved June 2005, from www.ipa.udel.edu/alumni/04/mix/Benefits_of_Compact_Develop.pdf

Counties allow relatively high-density subdivisions to be built in the midst of traditionally agricultural and rural areas where no services are planned. Zoning and subdivision ordinances in those two counties allow a de-facto density bonus for clustering and the use of community septic systems in rural areas, and ensure developers minimum densities of one to two units per acre. Developers are attracted by relatively low land costs in rural areas. This is possible, in part, because they do not have to take into account the costs of providing needed public infrastructure and services to the future residents. Those costs (including road construction and maintenance, school transportation, police protection, and emergency medical services) are borne by taxpayers.

There are those who contend that, if the Delaware Sprawl Prevention Act is passed, developers will be compelled to put the same number of houses in rural areas, but use up more land in doing so. For example, if the current regulations would allow 100 residential units on a 100 acre parcel, the concern is that if this Act passes the same developer would simply buy 400 acres to construct 100 residential units. This is unlikely to occur for two reasons. First, there is no shortage of available land inside the growth zones as depicted in the *Strategies for State Policies and Spending* and the certified local government plans.⁴⁷ Developers of large scale residential subdivisions will be able to meet the needs of housing future population growth where the infrastructure and services are available while taking advantage of the cost-savings inherent in their current business model.

Second, this approach would not be compatible with the typical business model used by the development industry in Delaware. Aside from the larger land purchases

⁴⁷ See Myth #6.

necessary, there would be notable increases in infrastructure costs in order to do a large-scale residential subdivision of four or more acres per lot. Research done in conjunction with the 2004 update of the *Strategies* detailed the cost benefits to developers and governments alike in developing in a compact pattern.⁴⁸ We expect to see some large lot subdivisions and “farmette” style residential developments if the Act passes, but nothing that approaches the scale and impact of the current style large-scale subdivisions with hundreds or thousands of units. We have only to look to New Castle County to get a glimpse of the impact the Sprawl Prevention Act may have on residential development activity. Since the County adopted the UDC in 1997, with five acre minimum lot sizes in the southern part of the county, there have been no new large scale subdivisions proposed or approved in this low density area. Many of the Maryland counties surrounding Delaware have similar regulations in place, and their experiences have been consistent.

Myth 12: The State Government is only interested in regulating rural lands, and is doing nothing to help rural landowners maintain and enhance equity.

Fact 12: *The State has long had a proactive approach to protecting our rural lands, and the Delaware Sprawl Prevention Act will not change that. The State has invested a significant amount of tax money into a nationally acclaimed farmland preservation program and an open space program. Both programs will continue. In addition, the State has worked through the Office of State Planning Coordination to develop innovative programs at both the State and County levels to ensure that rural landowners have many options to either enhance or transfer their equity depending on their needs.*

The State of Delaware has a long history of working proactively with landowners to protect the value inherent in our rural lands, and to enhance its equity and environmental values. Delaware has a nationally acclaimed farmland preservation program as well as an active open space program which acquires sensitive natural areas. These programs will

⁴⁸ Op. cit., Mix.

continue and should be expanded. The Agricultural Preservation Program was recently upgraded with a permanent funding source and expanded with a new option for owners of working forest lands. These changes demonstrate the dedication of the State to the future viability and stability of these programs.

The State has also supported innovative equity transfer options developed by local governments, such as Kent County's new Transfer of Development Rights ordinance. The State will continue to provide grant funding and direct assistance to local governments that wish to develop plans and ordinances aimed at preserving the rural landscape. The State, through the Office of State Planning Coordination, is continuously working on research projects and developing best practices that will help our local governments manage land use change in Delaware. Model ordinances, such as agricultural zoning models that further protect rural landscapes and allow agricultural commercial and industrial uses, are an example.

Conclusion

The Delaware Sprawl Prevention Act is a new approach for Delaware, but it is not an untested one. We have been actively planning for our future in Delaware since the State Planning Council was established in 1959⁴⁹, striving to encourage appropriate growth and development while preserving and protecting our quality of life. We now face unprecedented development pressure which threatens our rural landscapes and creates new challenges that make it clear that stronger tools are needed to accomplish our land use goals. We have a long and impressive track record of planning in the state, and among the local, county, and State governments and the citizens of Delaware we have defined a clear vision of what future land use patterns should be. We have worked to

⁴⁹ Op. Cit. Delaware *Strategies for State Policies and Spending*, pp. 11-12.

revitalize our cities and small towns, designed and built roads and schools, provided critical public facilities and services to meet our needs, and fostered the creation of new commercial, industrial and housing areas to create the unique place we call home. Now it is time to manage this new wave of growth in accordance with that vision. Due to the foresight of our local governments, we have adequate growth areas to channel development into, assuring a vibrant economy and a range of jobs and services for current and future residents of the state. It is critical that we take this important step to ensure that the growth that is coming does not negatively impact the rural landscapes that are so important to our economy, our environment, and our quality of life. We must protect our largest industry, agriculture. We need to preserve our quality of life and low taxes. Delaware residents expect no less. We must act now to preserve our heritage and environment by growing responsibly.

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Worcester County. (2005). *Code of Public Local Laws Worcester County, Maryland, v11*. Retrieved June 2005, from <http://www.co.worcester.md.us/>

Annotated Bibliography

This annotated bibliography encompasses all of the resources that were identified and reviewed during the process of preparing this paper. It includes many additional resources that were not specifically referenced in *Equity in Agriculture*, but were important in the development of the paper none-the-less.

American Farmland Trust. (2002, November). *Fact Sheet: Cost of Community Services Studies*. Retrieved March 2005, from <http://www.farmlandinfo.org>

The methodology and average results from costs of community services studies conducted throughout the US are described in this article.

Available at: http://www.farmlandinfo.org/documents/27757/FS_COCS_8-04.pdf

American Farmland Trust. (1997). *Saving American Farmland: What Works*. Northhampton: American Farmland Trust.

This book lists numerous places where different strategies have worked, with a good discussion on agricultural zoning accomplishments.

Available at: Office of State Planning Coordination

American Planning Association. (1999, April 26). *Policy Guide on Agricultural Land Preservation*. Retrieved February 2005, from <http://www.planning.org/policyguides/agricultural.htm>

This guide outlines the American Planning Association's position on agricultural land preservation and key points that need to be considered by local governments as they preserve agricultural land.

Available at: <http://www.planning.org/policyguides/agricultural.htm>

American Planning Association. (1995, April 11) *Policy Guide on Takings*. Retrieved July 2005, from <http://www.planning.org/policyguides/takings.html>

This guide gives a background on takings, reviews relevant legal information and outlines the American Planning Association's position on takings

Available at: <http://www.planning.org/policyguides/takings.html>

Barrows, R.L. & Henneberry, D.M. (1990). Capitalization of Exclusive Agricultural Zoning into Farmland Prices. *Land Economics*, 66, 249-257. Retrieved February 2005, from the University of Delaware Library electronic journals.

Barrows and Henneberry point out in this article that economic impacts of agricultural zoning are going to vary according to the specific characteristics of each individual land parcel. However, their study showed that more than 90% of the farmland parcels they used, which were larger than 35 acres and at least 10 miles from a large city, showed value increases due to agricultural zoning.

Available at: University of Delaware Library

Brown, J. (2005, May 4). Plans for Cartanza chicken farm rile neighbors. *Dover Post*. Retrieved August 2005, from <http://www.doverpost.com/PostArchives/05-04-05/index.html>

This newspaper article outlines the issues revolving around plans to build a chicken farm on the Cartanza farm of approximately 5,500 acres. The emphasis of this article is how neighbors are opposed to the chicken farms, but Cartanza points out that “everyone wants to live in a rural area, but they don’t want to deal with what it takes to make it farmland.”

Available at: <http://www.doverpost.com/PostArchives/05-04-05/index.html>

Cohen, H.D. & Wolfe, B.B. (2002, December 2). Preserving Farmland through Zoning: Lessons from East Amwell. *New Jersey Future*. Retrieved March 2005, from www.njfuture.org/articles/preservingfarmland.html

Cohen and Wolfe discuss what East Amwell did to win the case upholding their downzoning regulation.

Available at: www.njfuture.org/articles/preservingfarmland.html

Cordes, M.W. (1999). Takings, Fairness, and Farmland Preservation. *Ohio State Law Journal*, 60, 1033. Retrieved June 2005, from the University of Delaware Library electronic journals.

Cordes evaluates legal aspects of land use restrictions with regards to “takings,” land preservation, and speculative development. One of his main points is that agricultural zoning can only be considered a taking if investment backed expectations are present, and investment backed expectations can be argued to be present when a landowner paid a substantially higher price for the land than what the actual value was.

Available at: University of Delaware Library

Coughlin, R.E. (1984, May). *The Effects of Agricultural Zoning on the Ability of Farmers to Borrow Money*. (Research Report No. 8) Philadelphia, PA: University of Pennsylvania Department of City and Regional Planning.

This report provides evidence showing that reducing development potential does not have a negative effect on the ability of farmers to receive loans from banks.

Available at: Office of State Planning and Coordination

Coughlin, R.E. (1991, Spring). Formulating and Evaluating Agricultural Zoning Programs. *Journal of the American Planning Association*, 57, 183-191.

Coughlin provides good ideas in this article about what issues need to be addressed to prove the need exists for implementing an agricultural zoning policy.

Available at: <http://www.planning.org/japa/index.htm> and at the University of Delaware Library

Daniels, T. (1993, August). Agricultural Zoning: Managing Growth, Protecting Farms. *Zoning News*, pp. 1-3.

This article talks about how zoning practices influence local politics, courts, and local farmers' expectations for their land. It mentions that tax breaks and PDR programs help owners gain land value. It specifically mentions that "government is under no obligation to guarantee a landowner's capital gain."

Available at: <http://www.planning.org/zoningpractice/index.htm> and at the Office of State Planning Coordination

Delaware Agriculture Statistics. (2004). The State of Delaware. Retrieved August 2005, from <http://www.nass.usda.gov/de/new2504.pdf>

This report gives a statistical overview of the agriculture industry in Delaware for the year 2003.

Available at: <http://www.nass.usda.gov/de/tablecontent.pdf>

Delaware Air Toxics Assessment Study. (2005). State of Delaware.

This study, by the DNREC Air Quality Section, is an evaluation of air toxic contaminants and the risks to human health.

Press release available at:
<http://www.dnrec.state.de.us/dnrec2000/admin/press/story1.asp?PRID=1750>

Delaware Equine Industry. (2004). State of Delaware.

This report gives a statistical overview of the value associated with the equine industry in Delaware, including the per-acre value of land in Delaware that is used for equine purposes.

Available at: <http://www.state.de.us/deptagri/pressrel/2EquineSurveyFULL.pdf>

Delaware Strategies for State Policies and Spending. (2004). State of Delaware.

This report outlines what the policies and strategies for spending are throughout the state, and includes the absorption analysis, which explains how much land is left in Delaware for development.

Available at: <http://www.state.de.us/planning/strategies/strategies.shtml>

Donegan, M. (2005, July 13). Developers offering Amish top dollar for land. *Dover Post*. Retrieved August 2005, from <http://www.doverpost.com/PostArchives/07-13-05/index.html>

This article explains how the loss of rural land is affecting the Amish people who are starting to leave the area because of increased traffic and congestion.

Available at: <http://www.doverpost.com/PostArchives/07-13-05/index.html>

Downey, K. (2005, June 9). Suburbs by the sea. *Washington Post*, p. F1.

This article reviews how the real estate market in Eastern Sussex County is growing and how Delaware appears to be unprepared to resist or deal with the growth.

Available at: www.washingtonpost.com

Duke, J.M. & Ilvento, T.W. (2004, October). A Conjoint Analysis of Public Preferences for Agricultural Land Preservation. *Agricultural and Resource Economics Review*, 33, 209-219.

The results of this study show that Delawareans do value farmland preservation and are willing to support PACE or PDR programs. Additionally, this study concludes that the net social benefits of preserving land will be positive.

Available at: Office of State Planning Coordination

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Delaware land use issues are discussed in this paper. The authors feel that impact fees should be used when other preservation techniques fall short.

Available at: <http://www.udel.edu/FREC/PUBS/RR02-03.pdf>

Duke, J.M. & Lynch, L. (2003, June). *Farmland Preservation Techniques: Identifying New Options*. (Report No. 03-02). Newark, DE: Food and Resource Economics.

This article explores different options to consider when creating farmland preservation policies. The creation of a pension plan for farmers is specifically examined in this article.

Available at: Office of State Planning Coordination

Editor. (2005, June 21). Corrections. *News Journal*. p. A2.

The correct numbers for Delaware's poultry industry from the *News Journal* article about the modern chicken houses being used on Delmarva are found in this corrections segment.

Available at: <http://www.delawareonline.com>

Farmland Preservation in Delaware. (2005) State of Delaware. Retrieved February 2005 from <http://www.state.de.us/deptagri/aglands/lndpres.shtml>

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Available at: <http://www.state.de.us/deptagri/aglands/lndpres.shtml>

Goldshore, L. & Wolf, M. (2002, October). Stopping the sprawl: desire for farmland preservation leads to 10-acre zoning, claims of confiscation of affected farmers and landowners. *New Jersey Law Journal*, 170, pp. S-1. Retrieved March 2005, from the University of Delaware electronic journals.

The strengths of the argument of the East Amwell, NJ downzoning case are discussed in this article.

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Harville, B. (2004). Little Pink Houses, Part 1: A special report on the impact of onsite sewer in Middle Tennessee. *Lebanon Democrat*. Retrieved July 2005, from <http://www.lebanondemocrat.com/news.ez?viewStory=175>

This article describes the issues Tennessee has dealt with when allowing on-site sewer treatment systems to be used. A significant portion of this article deals with the “infrastructure drain” that results from the sprawling development made possible by the on-site septic systems.

Available at: <http://www.lebanondemocrat.com/news.ez?viewStory=175>

Harville, B. (2005, July). New Tech, New Trouble? *Planning*, pp. 36-41.

The problems that have arisen from on-site septic systems are discussed in this article, including how they increase sprawl, which leads to a drain on government infrastructure and services.

Available at: <http://www.planning.org/planning/nonmember/default1.htm>

Holland, H.K. & Schuler, T.R. (2000). *The Practice of Watershed Protection*, pp. 7-18, 145-161.

The title page of this book outlines the book’s contents as “techniques for protecting our nation’s streams, lakes, rivers and estuaries.” Specifically, this book outlines studies showing the different percentages of imperviousness at which watersheds and aquatic plants and animals begin to sustain damage.

Available at: Office of State Planning Coordination

Humbach, J.A. (1989, December). Law and A New Land Ethic. *Minnesota Law Review*, 74, 339. Retrieved June 2005, from the University of Delaware Library electronic journals.

Humbach evaluates legal issues of farmland preservation and how the doctrine of “takings” applies. He specifically argues that there’s no constitutional right to develop land and that taking development rights doesn’t constitute a taking as long as there is still an “economically viable use” of the land.

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Irwin, E., Morrow-Jones, H.A., & Roe, B. (2004, February). The Effects of Farmland, Farmland Preservation, and Other Neighborhood Amenities on Housing Values and Residential Growth. *Land Economics*, 80, 55-75. Retrieved February 2005, from the University of Delaware Library electronic journals.

This article investigates how people value preserved farmland and open space by examining the effects of preserving farmland on the price of nearby neighborhoods. In some instances preserving farmland created an average increase of \$8,203 for nearby homes. The authors also found evidence in one scenario that a neighborhood park increased the value of nearby homes between 15% and 26%.

Available at: University of Delaware Library

Land Values and Cash Rents 2005 Summary. (2005, August). United States Department of Agriculture. Retrieved August 2005, from <http://usda.mannlib.cornell.edu/reports/nassr/other/plr-bb/land0805.pdf>

Every year the US Department of Agriculture produces a report outlining agricultural land values for each state. This year's report lists Delaware as the state with the highest percentage increase in agricultural land value over the past year, and as having the 4th most valuable farm real estate in the US.

Available at: <http://usda.mannlib.cornell.edu/reports/nassr/other/plr-bb/land0805.pdf>

Lynch, L. & Nickerson, C. (2001). The Effect of Farmland Preservation Programs on Farmland Prices. *American Journal of Agricultural Economics*, 83, 341+. Retrieved February 2005, from the University of Delaware Library electronic journals.

The authors of this paper analyzed how the selling price of farmland in Maryland has been influenced by preservation programs. The main conclusion drawn from their study was that there was no statistically significant difference in farmland values due to preservation programs.

Available at: University of Delaware Library

Miller, D.J., & Plantinga, A.J. (2001, February). Agricultural Land Values and the Value of Rights to Future Land Development. *Land Economics*, 77, 56-67. Retrieved February 2005, from the University of Delaware Library electronic journals.

Using data from New York State, the authors suggest that increases in agricultural land productivity result in higher land values when development seems avoidable.

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Miller, M. (1995, August-Sept). How Preservation Pays. *Mother Earth News*, 151, 70. Retrieved March 2005, from the University of Delaware Library electronic journals.

This article talks about the benefits and options of farmland preservation.

Available at: University of Delaware Library

Mix, T.D. (2003, August 29). *Exploring the Benefits of Compact Development*. Retrieved June 2005, from www.ipa.udel.edu/alumni/04/mix/Benefits_of_Compact_Develop.pdf

Mix explains how compact development benefits both the public and developers, while preserving natural resources and making better use of public services.

Available at:

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Montgomery, J. (2005, August 16). Delaware's air a toxic mix of chemicals, state study says. *News Journal*, p. A1, A9.

This article examines the results of the Delaware Air Toxics Assessment Study and the implications they have on Delaware.

Available at: <http://www.delawareonline.com/>

Nelson, A.C. (1992, Autumn). Preserving prime farmland in the face of urbanization: Lessons from Oregon. *Journal of the American Planning Association*, 58, 467+.

The strengths and weaknesses of Oregon's attempts to preserve rural land are discussed in this article.

Available at: <http://www.planning.org/japa/index.htm> or the University of Delaware Library

Palazzolo v. Rhode Island, 533 U. S. 606 (2001).

The United States Supreme Court ruled in this case that even though a Rhode Island ordinance restricted the use of most of Mr. Palazzolo's land, it didn't constitute a taking because there was still a portion of his land which retained "significant development value."

Available at: University of Delaware Library

Penn Central Transp. Co. v. New York City, 438 U.S. 104 (1978).

In this Supreme Court case, it was ruled that New York City hadn't effected a taking by restricting development over Grand Central Station because the station retained sufficient economic value without additional development.

Available at: University of Delaware Library

Pinkham, R. D. et. al. Rocky Mountain Institute. (2004). *Valuing Decentralized Wastewater Technologies*.

This report gives an overview of the benefits, costs, and considerations that should be examined when comparing centralized and decentralized sewer systems. One of the main points is that decentralized systems are beneficial because they are an inexpensive way to service areas that do not have access to centralized systems. However, the report points out that it can be burdensome and costly for owners to monitor and maintain decentralized systems and that these systems result in haphazard growth where inadequate zoning regulations are in place.

Available at: <http://www.rmi.org/sitepages/pid172.php#W04-21>

Protecting Farmlands. (1984). Westport: AVI Publishing Company.

NY, OR and WI are mentioned in this book as states that have adopted legislation allowing exclusive agricultural zoning.

Available at: University of Delaware Library

Retzlaff, R. (2004, March) Agritourism Zoning Down on the Farm. *Zoning Practice*, pp. 2-6.

Agritourism ordinances are discussed in this article, along with how agritourism has social benefits and adds value to farms.

Available at: <http://www.planning.org/zoningpractice/index.htm> or the Office of State Planning Coordination

Rogers, S.J.T. et al. (2003, December). *Downzoning: Does it Protect Working Landscapes and Maintain Equity for the Landowner?* Retrieved March 2005 from the Maryland Center for Agro-Ecology, Inc.: <http://www.agroecol.umd.edu>

Evidence in this report suggests that it is untrue that downzoning has a uniformly negative effect on land values, and the report shows that downzoning has helped maintain and increase farmland value in many parts of Maryland.

Available at:

http://agroecology.widgetworks.com/data/files/pdf/1101833314_29619.doc

Schwartz, A.W. (2004). Reciprocity of advantage: the antidote to the antidemocratic trend in regulatory takings. *UCLA Journal of Environmental Law & Policy*, 22, 76. Retrieved June 2005 from the University of Delaware Library electronic journals.

Schwartz explains in this article that regulations should only be considered as takings in extreme cases when land is left without any economically viable use. He argues that partial takings by a regulation should be disregarded because they are more than offset by the regulation's benefits.

Available at: University of Delaware Library

Seznec, G. (2005). Effective Policies for Land Preservation: Zoning and Conservation Easements in Anne Arundel County, Maryland. *Virginia Environmental Law Journal*, 23, 479. Retrieved June 2005 from the University of Delaware Library electronic journals.

Anne Arundel County's rural land preservation efforts are analyzed in this paper, concluding that zoning ordinances that conserve land and the quality of the bay can be effective government tools to preserve rural land.

Available at: <http://www.velj.org> or the University of Delaware Library

State of Delaware. (2005). *Agritourism*. Retrieved June 2005, from <http://www.state.de.us/deptagri/agritour/index.shtml>

This webpage lists a variety of agritourism businesses found throughout all three Delaware counties.

Available at: <http://www.state.de.us/deptagri/agritour/index.shtml>

Swope, S. (2005, June). Stranded Seniors. *Governing*, pp. 40-42.

This article explains the transportation difficulties seniors living in the suburbs have and how this problem will compound as the baby boom generation becomes part of the senior population in the next few years.

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Tadesse, L. (2005, June 19). Delmarva's poultry farms go high-tech. *News Journal*, p. E7.

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